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Erratum

Coherent control of stimulated emission inside one dimensional photonic crystals: strong coupling regime

A. Settimi[1,a], S. Severini[2], C. Sibilia[3], M. Bertolotti[3], A. Napoli[4], and A. Messina[4]

[1] INGV (Istituto Nazionale di Geofisica e Vulcanologia), via di Vigna Murata 605, 00143 Rome, Italy
[2] Centro Interforze Studi Applicazioni Militari (CISAM), Via della Bigattiera 10, 56122 San Piero a Grado, Pisa, Italy
[3] Dipartimento di Energetica, Università "La Sapienza" di Roma, via Scarpa 16, 00161 Roma, Italy
[4] Dipartimento di Scienze Fisiche ed Astronomiche, Università di Palermo, via Archirafi 36, 90123 Palermo, Italy

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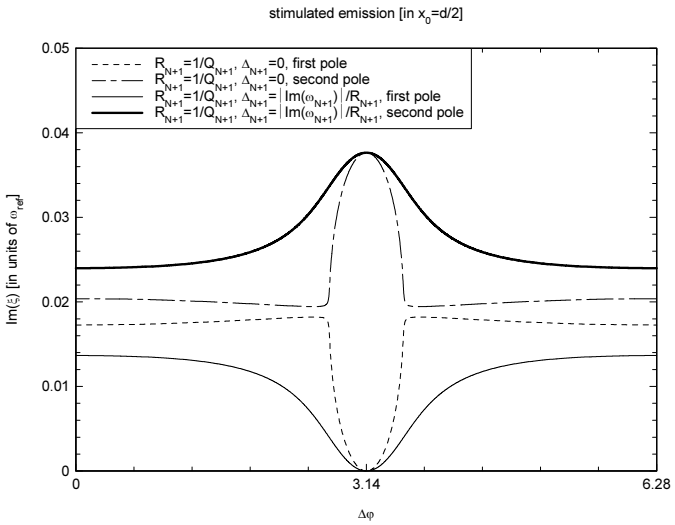
An error occurred in Figure 2. Figure 2d appears as a duplicate of Figure 2c. The correct Figure 2d is as below. The whole correct Figure 2 is on the next page:



[a] e-mail: alessandro.settimi@ingv.it

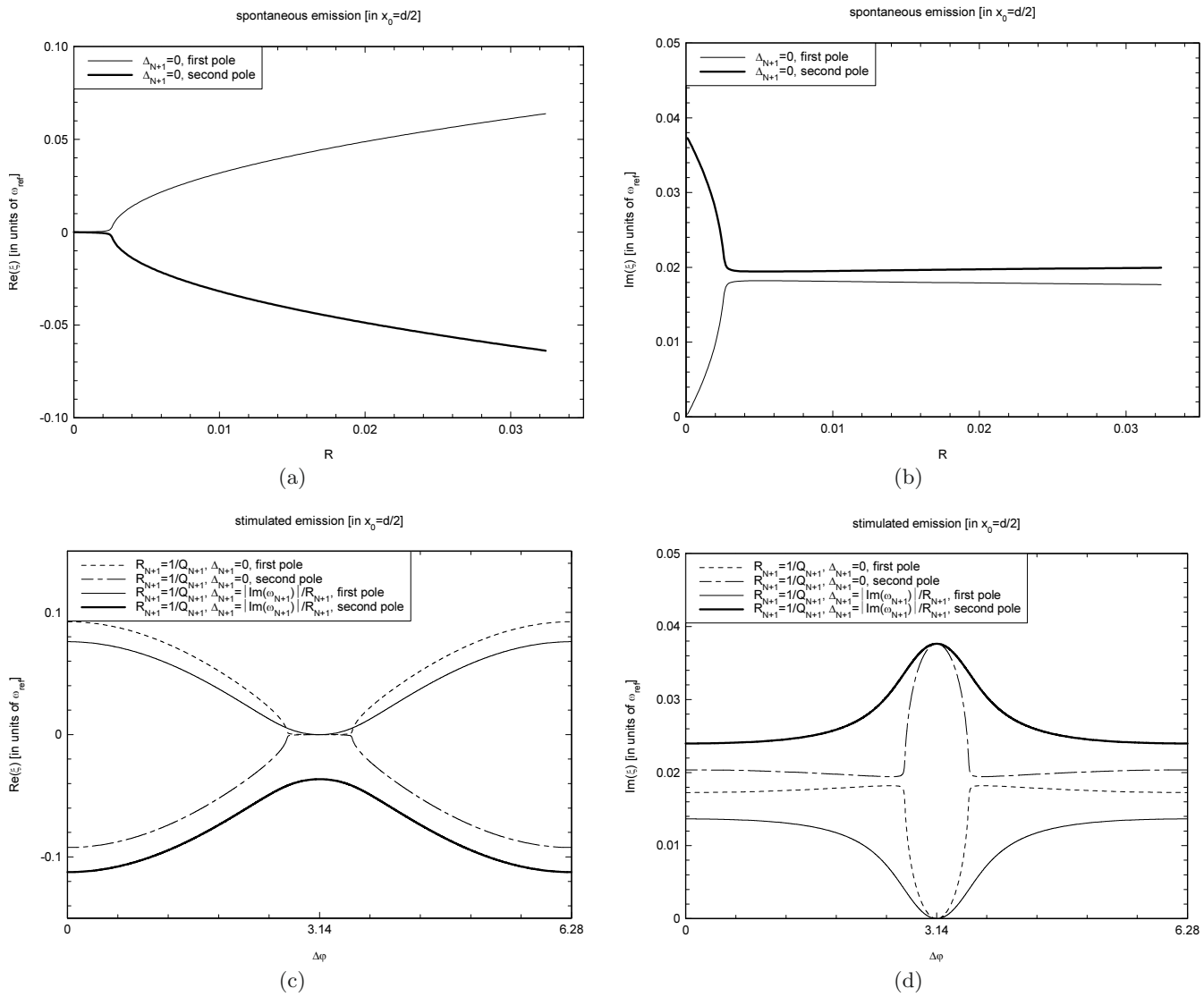


Fig. 2. If the atom embedded inside the 1D-PBG cavity of Figure 1 oscillates at the $(N+1)$th Quasi Normal Mode (QNM), next to the high-frequency band edge [i.e. in perfect tuning $\Delta_{N+1} = 0$, see Eq. (7.5)], the spontaneous emission in strong coupling regime can be characterized by the two poles of the emission spectrum of the atom, which poles are shifted of the atomic resonance Ω [see Eqs. (5.2) and (4.4)]; the real (Fig. 2a) and imaginary (Fig. 2b) parts, in units of the 1D-PBG reference frequency ω_{ref}, are plotted as functions of the coupling degree $R = \Gamma_0/\Omega$, which is the ratio between the atomic decay-rate in vacuum Γ_0 and the resonance Ω [see Eq. (7.4)]. If two counter-propagating laser beams are tuned at the resonance Ω and the atom is coupled to the $(N+1)$th QNM, (i.e. $Q_{N+1} = \Omega/|Im[\omega_{N+1}]|$, see Eq. (7.3)), the stimulated emission in strong coupling (for $R_{N+1} = 1/Q_{N+1}$, see Eq. (7.6)) can be characterized by the two poles of the atomic emission spectrum, which poles are shifted of the resonance Ω [see Eqs. (5.2) and (4.8)]; whether the atom oscillating at the $(N+1)$th QNM frequency (i.e. in perfect tuning $\Delta_{N+1} = 0$) or at a frequency in the band gap next to the high frequency band edge [i.e. in detuning case $\Delta_{N+1} = |Im[\omega_{N+1}]|/R_{N+1}$, see Eq. (7.9)], the real (Fig. 2c) and imaginary (Fig. 2d) parts, in units of the 1D-PBG reference frequency ω_{ref}, are plotted as functions of the phase difference $\Delta\varphi$. between the two laser beams.